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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/633,336	08/04/2000	Hiroshi Ueda	Q60276	2028

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EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 05/08/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

T-P-7

Office Action Summary	Application N .		Applicant(s)	
	09/633,336		UEDA ET AL.	
	Examiner		Art Unit	
	Steven D. Maki		1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6</u> . | 6) <input type="checkbox"/> Other: _____ |

1) Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-17, drawn to a method for manufacturing a pneumatic tire, classified in class 156, subclass 128.1.
- II. Claim 18, drawn to apparatus which is a full mold vulcanization molding machine, classified in class 425, subclass 28.1.

2) The inventions are distinct, each from the other because:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process as claimed can be practiced by another materially different apparatus such as a mold not having "guide means provided on said [upper and lower] molds for letting said lug groove ribs fit into a carved groove formed on a green tire when said green tire is charged in said full-mold vulcanization-molding machine". Alternatively, the apparatus as claimed can be used to practice another and materially different process such as molding a tread which has not been carved.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

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3) During a telephone conversation with Neil Siegel on 3-25-02 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-17. Affirmation of this election must be made by applicant in replying to this Office action. Claim 18 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4) The disclosure is objected to because of the following informalities:
on page 7 eight lines from bottom, "off the use" should be --off the road--;
on page 7 five lines from bottom, "b2" should be --2--;
on page 8 line 21, "dread" should be --tread--.

Appropriate correction is required.

5) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6) Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 line 6, "extending" should be changed to --such that the carved grooves extend-- to clarify which subject matter relates to extending.

In claim 14, the description of the expansion rate being 3% and less is confusing and ambiguous.

In claim 15 line 3, "lwer" should be --lower--.

In claim 17, the scope of "ribbon-like" and "sheet-like" is unclear.

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Claim 17 is ambiguous. The preamble of the claim describes "manufacturing a pneumatic tire" and the body of the claim describes "a lug groove" but no step of vulcanizing the green tire to form a vulcanized tire having said lug groove is claimed.

7) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9) **Claims 1, 10-14, 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Watanabe et al (US 4,682,641).**

Watanabe et al discloses a process for manufacturing high lug pneumatic tires comprising providing an unvulcanized tire (green tire) made by successively winding a carcass ply, a belt ply, and a tread rubber on a drum (col. 1 lines 6-17, col. 2 lines 50-52), moving cutters 83, 84 along a predetermined path to cut off (carve) a portion of the tread rubber of the unvulcanized tire 5 to thereby form a quasi pattern of grooves 86 which are substantially complementary to the shaping surface of a vulcanizing mold to be used in a next tire manufacturing process (col. 4 line 64 to col. 5 line 2); and vulcanizing the tire with the shaping surface of the vulcanizing mold matching the quasi

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pattern of grooves 86 on the tire (col. 6 lines 52-55). At col. 6 lines 55-61, Watanabe et al explains the benefit of this process as follows: "Since the shaping surface and the quasi pattern of grooves 86 are substantially complementary to each other, any flow of the rubber as it is vulcanized is small. This eliminates any tendency to form recesses in the inner side of the lugs upon the flow of the rubber into the grooves of the mold".

As to claim 1, the claimed process is anticipated by the above process of Watanabe et al. In any event: As to claim 1, it would have been obvious to carve the unvulcanized tire of Watanabe et al such that the carved grooves are "at positions on a surface of the unvulcanized tire corresponding to the lug grooves such that the carved grooves extend in substantially the same direction as the lug grooves" (emphasis added) since Watanabe et al teaches cutting (carving) a quasi pattern of grooves 86 which are substantially complementary to the shaping surface of a vulcanizing mold which is used to vulcanize a tire having high lugs and deep lug grooves so that any flow of the rubber as it is vulcanized is small to thereby eliminate any tendency to form recesses in the inner side of the lugs upon the flow of the rubber into the grooves of the mold; it being additionally noted that Watanabe et al teaches that the quasi pattern grooves match the surface shape of the vulcanizing mold (abstract).

As to claims 10-12, the limitations of the volume of the carved groove being 0.4-1.2 times the volume of the lug groove (claim 10), 0.7-1.0 times the volume of the lug groove (claim 11) or 0.5-0.9 times the volume of the lug groove (claim 12) would have been obvious in view of the above noted suggestion from Watanabe et al to form the

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carved grooves such that they are substantially complementary to the lug grooves or match the lug grooves formed by the mold.

As to claims 13-14, it would have been obvious to use a belt member having a relatively low expansion rate (claim 13) such as 3% or less (claim 14) as the belt ply in Watanabe et al since a belt having a relatively low expansion rate such as 3% or less for a pneumatic tire is taken as well known / conventional per se in the tire art.

As to claim 17, it would have been obvious to form the unvulcanized tread rubber, which is wound on a belt ply (belt member) and a carcass (ply), by extrusion since it is taken as well known / conventional per se in the tire making art to successively wind a carcass ply, belt ply and tread on a drum wherein the tread is formed by extrusion.

10) Claims 2-6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4,682,641) in view of Clayton (US 4,237,955).

As to claims 2-6 and 9, the limitations therein regarding the configuration of the carved grooves and consequently the configuration of the lug grooves would have been obvious in view of (a) Watanabe et al's teaching to form lug grooves from the carved grooves and (b) the various lug grooves shown by Clayton on drawing sheet #8.

11) Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4,682,641) in view of Verdier (US 3,457,981), Japan '312 (JP 5-229312) or Japan '601 (JP 53-116601).

As to claim 7, it would have been obvious to form the carved grooves such that they gradually widen from a tread center side to a tread end and consequently the lugs

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grooves gradually widen from a tread center side to a tread end in view of Verdier, Japan '312 or Japan '601's suggestion to configure lug grooves such that they gradually widen from a tread center side to a tread end.

12) Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4,682,641) in view of Verdier (US 3,457,981), Japan '312 (JP 5-229312) or Japan '601 (JP 53-116601) as applied above and further in view of Sipe (US 2,245,728).

As to claim 8, it would have been obvious to carry out the carving twice using a cutter in view of Sipe's suggestion to cut (carve) a single groove using a plurality of cutters (knives) to reduce resistance of the rubber to the cutting edge.

13) Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4,682,641) in view of Great Britain '891 (GB 1248891), Japan '509 (JP 4-28509) or Japan '711 (JP 61-3711).

As to claims 15 and 16, it would have been obvious to use the claimed full mold vulcanization molding machine having upper mold and lower mold in view of (a) Watanabe et al teaching to use a vulcanization mold and (b) the upper mold and lower mold containing "full mold" vulcanization mold apparatus shown by Great Britain '891, Japan '509 or Japan '711.

Remarks

14) The remaining references are cited of interest.

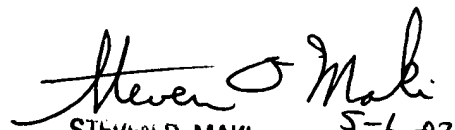
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15) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
May 6, 2002


STEVEN D. MAKI
PRIMARY EXAMINER
~~GROUP 1300~~
AV 1733
5-6-02